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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/731,777	12/09/2003	Peter Ifju	5853-355	4921
30448	7590	11/16/2005	EXAMINER	
AKERMAN SENTERFITT			HOLZEN, STEPHEN A	
P.O. BOX 3188			ART UNIT	
WEST PALM BEACH, FL 33402-3188			PAPER NUMBER	
			3644	

DATE MAILED: 11/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/731,777	Applicant(s) IFJU ET AL.	
	Examiner Stephen A. Holzen	Art Unit 3644	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 August 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-6,9-12,14-17,20-24,32 and 33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-6,9-12,14-17,20-24,32 and 33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>7/11/2005</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 8/29/2005 have been fully considered but they are not fully persuasive.

The applicant has argued that it would not be obvious to choose a material based on the intended use of that material. The examiner disagrees and asserts that it is within the ordinary skill of a worker in the art to select "a material" that is capable of performing a desired function.

The applicant has not demonstrated the criticality of a specific material and instead merely argues that the function performed by the material is critical. While features of an apparatus may be recited either structurally or functionally, claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function. In re Schreiber, 128 F. 3d 1473, 1477-78, 44 USPQ2d 1429, 1431-32 (Fed Cir. 1997). Applicant is reminded that an "apparatus claim covers what a device is, not what a device does". (Hewlett-Packard Co. v Bausch & Lomb, Inc. 909 F.2d 1464, 1469, 15 USPQ 2d 1525, 1528 (Fed. Cir. 1990).

As far as claims 1 and 12 are concerned the specific material is not recited and therefore the material itself cannot predicate patentability. As recited in the Leshin decision, the Board states that the mere selection of plastics (i.e. the material in question) on the basis of suitability for the intended use would be entirely obvious. The examiner, in taking a broad view of this decision, asserts that the board did not intend

for their decision to be limited to plastics. Instead the examiner asserts that the board intended for their decision to be applicable to other materials.

The applicant argues that the use of the claimed material imparts patentability to the claims however never recites this material in the independent claims. Applicant is, therefor, relying only on the capability of the unspecified material to be suitable for fulfilling the its intended use (i.e. improving wind gust rejection due to adaptive washout as a result of the material flexibility decambering.) The examiner asserts that the selection of the material is obvious (particularly so when no specific material is recited), and that the intended use of the material does not serve to patentably distinguish over the prior art since apparatus claims must be distinguished in terms of structure, and not function. Therefor the teachings of Leshin are entirely appropriate since Leshin teaches that it would be obvious to one having ordinary skill in the art to select a material on the basis of its suitability for the intended use a matter of obvious design choice.

Applicant's remarks regarding the claimed functional language are not persuasive since (as described above), claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function. The examiner asserts that the cited references are inherently capable of fulfilling these functions. Whether these references specifically recite these functions is of no consequence.

Applicant's remarks regarding an Official Notices are off point and therefore moot. Nowhere in the detailed action did the examiner take Official Notice.

The applicant's arguments regarding Christian with respect to Claim 1 and Claim 12 are moot, since the examiner did not reject claims 2 or 13, and these limitations have

been amended into the independent claims 1 and 12. In fact the examiner has admitted on the record that Christian et al does not teach the limitations of claims 2 and 13. (See Non final Action mailed on 4/5/2005, page 2, lines 7 and 8). Since the applicant has amended the limitations of claims 2 and 13 into the limitations of claims 1 and 12, the rejection of claims 1 and 12 in view of Christian have been withdrawn.

The applicant's remarks regarding Fuller are not persuasive. The applicant has argued that the claims are only limited to the capability of performing the claimed function. Applicant then asserts that Fuller does not teach these functions. The examiner asserts however the Fuller is capable of performing the functions as claimed.

Applicant has argued the Fuller does not disclose a leading edge formed from a different material than the remainder of the layer of resilient material. The examiner disagrees. The leading edge (16) is formed of a material (11), and the at least one layer is formed of a different material (14). Material #11 may be aluminum, steel, plastic reinforced with fibers such as glass, graphite or other commonly used fibers, epoxy resin or polyester resin reinforced with glass fiber. The material #14 is "expanded plastic or the like". Therefor Fuller teaches at least two different preferred materials (i.e. Aluminum and plastic). It should further be appreciated that the applicant's arguments in this regard are more specific than the claim language. The applicant has argued that Fuller does not disclose a leading edge formed from a different material than the remainder of the (same) layer of material. The claims do not recite that the same layer must be made of two different materials. Instead the claims recite a leading edge is made from one material and a second layer "extends from the leading edge to the

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trailing edge". The examiner asserts that the material #14 extends from the leading edge #16 to the trailing edge #18.

Applicant's remarks regarding Michelson are confusing. Initially it should be noted that the applicant has claimed a range. (3 to 20 inches). Michelson teaches that the length of the wings (as illustrated in Figure 2D₂) should not be greater than 15cm. (i.e. no greater than 5.095 inches). Since Michelson's maximum dimension falls within the claimed range these limitations are therefor taught by the prior art. Furthermore Michelson teaches that Micro Aircraft have a maximum size of 5.09cm. Michelson therefor implies that the size of the vehicle can be such that it fits within a 3-inch diameter tube (i.e. have a width less than 3 inches; see col. 4, lines 1-4). The examiner disagrees that Michelson teaches away from the claimed ranges, as alleged by the applicant.

The applicant has not provided any arguments with respect to Shulman and instead is relying on his assertions that claims 1 and 12 are allowable for the reasons previously put forth.

While the examiner understands the difference between the cited prior art and the current invention, the examiner does not believe that the applicant has positively recited within the claims structure to emphasize these differences. The examiner believes that the claims could be amended in such a way that would overcome the cited and relied upon prior art, so long as these amendments positively emphasize the unique structure and not the functional capabilities of the present invention.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-6, 12-17, 32 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fuller.

Re – Claims 1 and 12: Fuller discloses a wing having a leading edge (16) formed from a first material (11) and a second material (15) layer that extends from the leading edges back towards the trailing edge and is housed between the first material layer (11) and (12). Fuller's wing is essentially a zero chambered wing that bends in only one direction (as illustrated in Figure 6) and has an upper concave surface (as illustrate in Figure 2) as well as a concave surface illustrated in the bending of the wing show in Figure 6. The wing tip is bend under each of the concave surfaces illustrated. The materials (11 and 15) are of different makes (see Col. 2, lines 50-60) and are inherently capable of being used to accomplish the functions as claimed. While Fuller does not specifically disclose that the materials disclosed are capable of fulfilling the claimed functions, the board decided in Leshin that it would be obvious to one having ordinary skill in the art to select a material on the basis of its suitability for the intended use a matter of obvious design choice. In re Leshin 125 USPQ 416.

Re – Claims 3-6, 14-17, 32 and 33: As discussed above Fuller does not disclose the selected material groups. However It would have been obvious to one having ordinary skill in the art at the time the invention was made to select a material, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin 125 USPQ 416.

Re – Claim 23: further comprising a tail coupled to the central body (see Figure 1) that is “generally orthogonal” to the wing. The wing of Christian et al and the tail are “generally orthogonal” although they are not exactly orthogonal.

Re – Claim 24: further comprising a tail coupled to the central body that is generally vertical to the wing. (#18 is generally vertical in its deployed position)

4. Claims 9, 10, 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fuller in view of Michelson (6,082,671). Fuller discloses every aspect of the present invention except for the size of the aircraft. Michelson discloses that it is known in the art to design micro air vehicles no greater than 15cm in any dimension. (Abstract line 5, see also Col. 4, lines 1-4) It would have been obvious to one having ordinary skill in the art to employ this idea into the device of Fuller for the purpose of performing reducing the visibility of the aircraft from the ground. Michelson teaches that Micro Aircraft have a maximum size of 5.09cm. Michelson therefor implies that the size of the vehicle can be such that it fits within a 3-inch diameter tube (i.e. have a width less than 3 inches; see col. 4, lines 1-4).

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5. Claims 11 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fuller ~~or Christian~~ in view of Shulman (4,332,103). ^{fails to} Neither Fuller ~~nor Christian~~ disclose a riser section forming a concave portion on an upper surface of the wing proximate to a trailing edge of the wing. Shulman however teaches that this is a well know design for to impart a slight climbing flight characteristic to the glider. (#30, see Col. 2, lines 65+) It would have been obvious to one having ordinary skill at the time the invention was made to use the riser design in the wing design of ~~both Fuller and Christian~~ for the purpose of increasing the aircraft dependency. TL

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen A. Holzen whose telephone number is 571-272-6903. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Teri Luu can be reached on 571-272-7045. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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